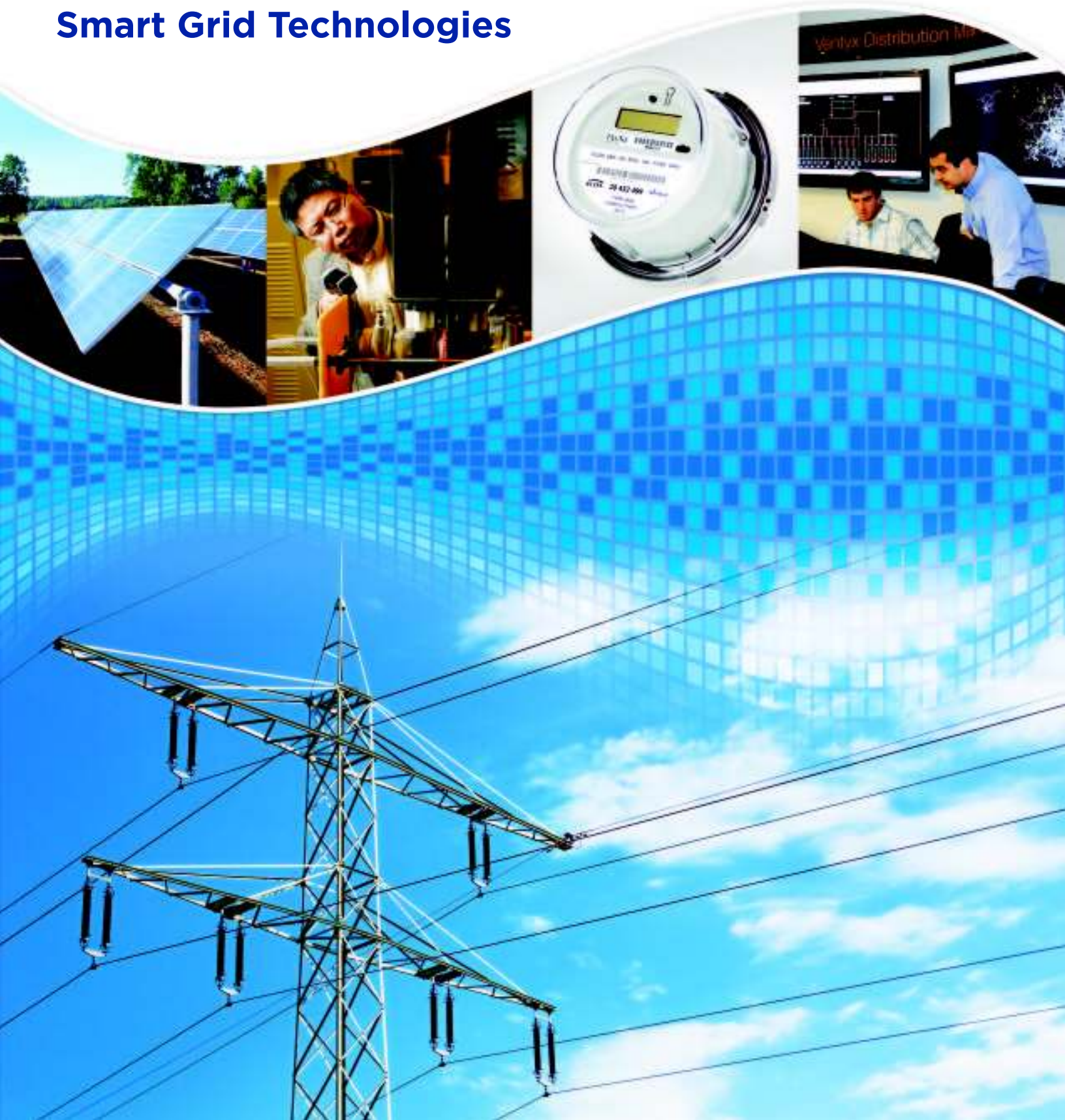


DRIVING INNOVATION IN **Smart Grid Technologies**



Welcome to Wake County; the Smart Grid Capital of the World. A bold statement for sure, but it's one that's backed up by dozens of companies that employ thousands of people. Collectively, these smart grid firms invest tens of millions of dollars annually on research, development, and implementation of new enabling technologies. Our community's success didn't happen overnight, and it's not just focused on smart grid technologies. Wake County is part of a larger concentration of cleantech companies found in North Carolina's Research Triangle Region that includes renewable energy and energy efficiency companies, plus a growing collection of businesses and assets engaged in advanced transportation and water technologies. In 2011, recognizing the area's impressive industry growth, the International Cleantech Network invited the Research Triangle Region to become one of only 15 members in the exclusive global organization.

Three factors are driving Wake County's expanding smart grid cluster: an unmatched roster of smart grid companies; a significant set of industry resources; and an impressive supply of technically trained people.

#2 Top City for Smart Grid U.S. Headquarters (Raleigh, NC)

*Center on Globalization, Governance & Competitiveness,
Duke University, 2011*

A Significant Industry Presence

Wake County's roster of companies is remarkable. It's not just the number that's noteworthy; it's their size, scope, and commitment to the area. More than 50 smart grid companies call the region home, many of which house their corporate, U.S., or divisional headquarters here. While these firms operate across the entire spectrum of the smart grid value chain, there are significant concentrations within information and communications technology integration, building energy management, distribution grid management, and advanced metering infrastructure. According to a recent Duke University study, these segments are expected to see a large percentage of the future investments made in the implementation of smart grid technologies.

Notable Smart Grid Headquarters

| | |
|------------------------|---------------------|
| 3DFS Power Solutions | Microcell |
| ABB | Nitronex |
| Baker Renewable Energy | Power Secure |
| Consonus Technologies | Quanta Technologies |
| Control Infotech | Red Hat |
| Cree | RTI International |
| DNA Group | SAS |
| Elster Solutions | Sensus |
| EnergyICT | Siemens Energy |
| Mackay Communications | Tantalus Systems |
| Major Power | Triangle Microworks |
| Megawatt Solar | |



Exceptional Resources

To succeed, transformational technologies like the smart grid require a collaborative environment. Industry must work with academia, and both must be supported by the public sector. No place in the nation is more practiced with those partnerships than the Research Triangle Region. One of the finest manifestations of that success is North Carolina State University's Centennial Campus, where thousands of students and teachers interact with dozens of companies and government agencies every day. It is on this campus of collaboration that many of the area's most valuable smart grid resources are located.

The **Future Renewable Electric Energy Delivery and Management (FREEDM) Systems Center** is an NSF-funded engineering research center focused on developing new technologies associated with the smart grid. The Center, which is also home to the Advanced Transportation Energy Center (ATEC), counts close to 50 companies as active industry partners. Its solid state transformer was named one of the world's 10 most important emerging technologies by MIT's *Technology Review*.

Duke Energy's Envision Center utilizes movie style sets to showcase the advantages of smart grid technologies.

The **North Carolina Solar Center** serves as a clearinghouse for renewable energy programs, information, research, technical assistance, and training for the companies and citizens of North Carolina and beyond.

The **ABB Smart Grid Center of Excellence** includes a testing and development laboratory, a verification center to certify customer solutions before deployment, and a demonstration center that showcases ABB's smart grid technologies and collaborative partnerships.

Talented People

In order to develop smart grid technologies, companies must have access to an incredibly bright workforce. It's this reality, more than any other that has thrust Wake County and the Research Triangle Region to the forefront of this industry. More than 3,000 people in the Triangle are directly employed in smart grid activities, and there are tens of thousands of other engineers, software developers and IT professionals all working in technology-driven industries.



Area colleges and universities are well positioned to meet the future workforce needs of smart grid companies through a combination of retraining and new curriculum programs. A perfect example is NC State University's new Master of Electric Power Systems Engineering degree. This intensive professional program, which benefits from significant industry collaboration, covers core power engineering topics, smart grid applications and cross-disciplinary courses including risk management, technical writing and engineering economics.

Innovators Wanted—Wake County is driving innovation in smart grid technologies. Call or click for information on how to become part of the revolution.



www.raleigh-wake.org/smartgrid
919.664.7042